MDSCC RA monthly report July 04

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FYI.

Cristina

Radio Astronomy Monthly Report - July 04

A. Software and Hardware Issues.

Due to problems with both EAC monitors they have been replaced by spares.

Tests on SPB500 spectrometer have been completed and K-band Spectroscopy Observations using the new spectrometer have successfully started during this month.

Maintenance on VLBI MarkIV Data Acquisition Terminal: Video converter VC11 output signal level is too low comparing with the others. After replacing it by a spare the problem persisted. A matrix switch problem is under investigation.

B. DSS63 antenna calibration tasks.

ANTCAL period on DOY 197 (480 min) was used to check L-band efficiency using the Pointing and Efficiency Tool (PET) developed at MDSCC. Results showed that problems addressed recently by Socorro correlator are not related with antenna focusing problems. "Onsource" EAC algorithm is under investigation.

Additionally measurements of K-band primary beam deformation versus elevation were performed.

C. Radio Astronomy Operations Training Course.

Two days "hands on" Radio Astronomy Operations training course has been imparted to our new operators.

D. Observations Issues.

During July 04 MDSCC performed 8 K-band spectroscopy observations (3025 min in total). 4 observations had to be canceled because they were simultaneous with VLBI observations. Currently both types of observations are making use of the same equipment (Mark IV DAT video converters) and can not be performed simultaneously.

Additionally during July 04 MDSCC participated in 7 VLBI observations (5270 min in total):

RFC Clock Synchronization JPL Project on DSS65 (2 observations; 480 min): performance of the system nominal except from a problem experienced with DSS65 AZ CCW pre-limit switch that caused 10% of the data being lost. No recording problems reported by JPL correlator.

RFC CATM&E JPL Project on DSS65 (1 observation; 1440 min): several antenna problems caused 6% of the data being lost. Phase Calibration Signal was not injected for first 4 hours due to a problem with the PCG control application.

DeltaDor Demo JPL Project on DSS55 (2 observations; 470 min): a problem with the predicts file on DOY 187 caused the "sidereal_apc" script to hang up at both sites (MDSCC and GDSCC). As a result 12% of the data was lost. The procedure to distribute predicts files is being revised.

Space Geodesy Program (SGP) on DSS65 (2 observations; 2880 min): performance of the system nominal (100% of the data collected). The PI was informed that one source was not observed because his schedule was not properly taking into account DSS65 azimuth wrap.